

Remarks

Claims 1-6 are pending in the application and stand rejected. By this response claim 1 and claim 5 have been amended. Claim 6 has been canceled. Applicants respectfully request reconsideration of all pending claims herein.

Drawings Objection

Figure 20 has been amended to be designated by a legend as prior art; as requested by the Examiner.

Claim Rejections – 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-6 under 35 U.S.C. § 103(a), as being unpatentable over Admitted by Applicant Prior (“AAPA”) in view of Saitou (US 5052103). Independent claims 1 and 5 have been amended to overcome the Examiners rejection.

The Examiner admits that the AAPA does not disclose a block layer provided between the surface of the via hole and the via conductor layer for preventing migration. The Examiner submits that the present claims are obvious when the AAPA is combined with the teachings of Saitou. The Examiner has submitted that the block layers in printed wiring board through-holes described in Saitou make the current claims directed to block layers in via holes unpatentable. However, Saitou does not teach the structure as described in the current application where a block layer is located at a shallower depth than the via itself.

The claims have been amended to clarify the distinctions between the block layers for through-holes of Saitou from the block layers for vias in the current application. The claims have been amended to recite a block layer which does not go deep enough to contact the land conductor layer. This is shown in Figure 12, among others, and is described in the specification. (Current Application, ¶ 0054-55). Having the block layer a shallower depth can give the same results as a full length block layer but at a reduced laser processing time and increases productivity. (Current Application, ¶ 0055).

Saitou does not describe a block layer that does not go the full depth of the hole and teaches away from such a design because Saitou deals only with through-holes which have no depth other than the full distance of the through hole. Shallower block layers are not possible in a through-hole because there is no base to the hole, it must go all the way through to the other side of the board. The concept of a structure which allows for reduced laser processing time by using shallower block layers is not compatible with through-holes because the area in which a shallow block layer on a through hole would not cover would be in the center of the insulating layer where more glass fibers reside and therefore more migration is present.

Claims 1 and 5 has been amended to emphasize the aspects of the claim not described by Saitou and all other rejected claims are dependant on claims 1 and 5, therefore applicants submit that the claims as amended overcome the Examiner's rejection and are in condition for allowance.

Prior Art of Record Not Relied Upon

The Examiner made Wu et al. (US 7288462) and Yokogawa (PG Pub. No. 2003/0226121) prior art of record but did not rely upon either. Applicants submit that the cited prior art does not disclose claims 1 or 5, as amended, or any claims dependant thereupon.

Conclusion

Based on the foregoing, it is respectfully submitted the application may be passed to issuance.

The Examiner is urged to call the undersigned at the number listed below if, in the Examiner's opinion, such a phone conference would aid in furthering the prosecution of the Application.

Respectfully submitted,
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